

Patent claims:

1. A process for the vacuum treatment of workpieces, comprising the steps of
 - loading said workpieces into a treatment facility;
 - surface treating said workpieces in at least one vacuum station of said facility grouped as a station batch;
 - controlling at least the timing of said process by means of a freely programmable process controller unit.
2. A process for vacuum treatment of workpieces, comprising the steps of
 - loading said workpieces into a treatment facility, comprising at least two stations operating each on workpiece batches, grouped as respective station batches and being different with respect to number of workpieces;
 - transporting said workpieces to and from said at least two stations grouped as a transport batch.
3. A process for vacuum treatment of workpieces, comprising the steps of
 - loading said workpieces into a treatment facility comprising at least two stations;
 - loading and unloading said at least two stations with workpieces grouped as a transport batch and
 - controlling said transport batch for loading or unloading said at least two vacuum stations.
4. A process for vacuum treatment of workpieces, comprising the steps of

- treating said workpieces grouped as respective station batches within at least two stations of a treatment facility;
- controlling said station batches.

5. The process of claim 1, further comprising the step of selecting the size of station batches in said vacuum station and in a further station of said facility to be different.

6. The process of claim 1, further comprising the step of transporting workpieces between said vacuum station and a further station of said facility grouped as a transport batch.

7. The process of claim 6, further comprising the step of controlling said transport batch.

8. The process of claim 2, further comprising the step of controlling said transport batch.

9. The process of claim 8, further comprising the step of controlling said transport batch by means of a freely programmable process controller unit.

10. The process of claim 2, further comprising the step of controlling said station batches.

11. The process of claim 2, comprising the step of controlling at least one of said station batch and of said

transport batch with respect to batch size and to geometric arrangement.

12. The process of claim 11, wherein said controlling is performed by means of a freely programmable process controller.

13. The process according to one of the claims 1 to 4, further comprising the steps of

- transporting workpieces to and from stations of said facility grouped as transport batches and selecting the number of workpieces of said transport batches not to exceed the number of workpieces of a station batch of a transport destination station.

14. The process of claim 13, further comprising the step of selecting the number of workpieces of said transport batches to be an integer fraction of the number of workpieces of a station batch of a transport destination station.

15. The process of claim 13, further comprising the step of selecting the number of workpieces of said transport batches to be an integer fraction of the number of workpieces of a station batch of a transport departure station.

16. The process of one of the claims 1 to 4, further comprising the steps of providing said workpieces in said stations within a mobile magazine.

17. The process of claim 16, further comprising the step of transporting said workpieces to and from said stations within said mobile magazine.

18. The process of one claims 1 to 4, further comprising the step of mutually and controllably isolating at least a part of stations provided at said facility.

19. A vacuum treatment system, comprising at least one vacuum treatment station for workpieces grouped as a station batch, a transport system for supplying said vacuum station with workpieces and a process controller unit, the output of which being operationally connected to a drive arrangement for said transport system, said unit controlling operating timing of said treatment system and being freely programmable.

20. A vacuum treatment system, comprising stations for receiving workpieces, at least two of said stations being designed for receiving station batches of workpieces of different sizes, a transport system serving said at least two stations with transport batches of workpieces.

21. A vacuum treatment system, comprising stations for receiving workpieces, at least two of said stations being designed for receiving station batches of workpieces, a transport system serving said at least two stations with transport batches of workpieces and a controlling unit controlling said transport batches.

22. A vacuum treatment system, comprising stations for receiving workpieces, at least two of said stations being designed for receiving station batches of workpieces, a controlling unit controlling said station batches.

23. A vacuum system according to one of claims 19 to 22, comprising at least two vacuum stations designed for receiving respective station batches of different sizes.

24. The systems according to claim 23, comprising a transport system construed for transporting workpieces grouped as transport batch.

25. The system of claim 24, wherein at least one of the size and of geometric arrangement of at least one of said transport batch and of said station batch is controllable.

26. A vacuum treatment module, comprising a chamber with a chamber wall, said chamber wall comprising openings for feed-through or for treatment of workpieces, further comprising a transport system within said chamber to serve said openings and a process control unit, the output of said process control unit being operationally connected to at least one actuator of said transport system, and wherein the size of batches of workpieces, which are received by vacuum stations mounted to at least two of said openings, is freely selectable at said process control unit.

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